Overview of MTC's Regional Travel Model and Current Forecasts

Doug Kimsey
Manager of Planning, MTC

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Why Have a Regional Travel Forecast Model?

- Federal statutes require long range transportation plans
- Require valid forecasts of future demand for transportation services

What Does a Regional Travel Model Do?

- **Predicts how residents will choose to travel given:**
  - Demographics
  - Land use conditions
  - Travel options
- **Forecasts travel behavior to compare impacts of investment and policy alternatives**

How Does MTC Use Its Travel Model?

1. Compare investment alternatives

- Regional Transportation Plan (*Transportation 2030*)
- Major investment/corridor studies (e.g., Bay Crossings Study, Regional HOV Master Plan)

2. Compare policy alternatives

- Land use (Smart Growth Vision)
- Pricing (HOT lanes)

3. Air quality conformity

- Regional Transportation Plan (RTP)
- Transportation improvement program of investments (TIP)

Forecast Information

- *Number of travelers by mode*
- *Number of travelers using new investments*
- *Travel time savings*
- *Traffic congestion, travel speed & delay*

How Does the Travel Model Work?

Inputs

1. **Demographics and land uses**
   - Federal requirement to use latest planning assumptions (ABAG Projections 2003)
2. **Pricing**
   - Fuel, parking, bridge tolls & transit fares
3. **Transportation networks**
   - Transit routes and service levels
   - Freeways and local roadways
4. **Travel behavior**
   - For commute, school, social & recreational travel
   - From Census & Bay Area household travel survey

How Does the Travel Model Work?

Outputs

1. **Travel Patterns: Number of people traveling between two locations**
   - Predicts trip origins/destinations based on housing and jobs/services location and time/distance between them
2. **Trips by Mode**
   - Auto (drive alone, carpool)
   - Transit (rail, bus, ferry)
   - Non-motorized (walk, bike)

How Does the Travel Model Work?

Outputs

3. Trips by purpose

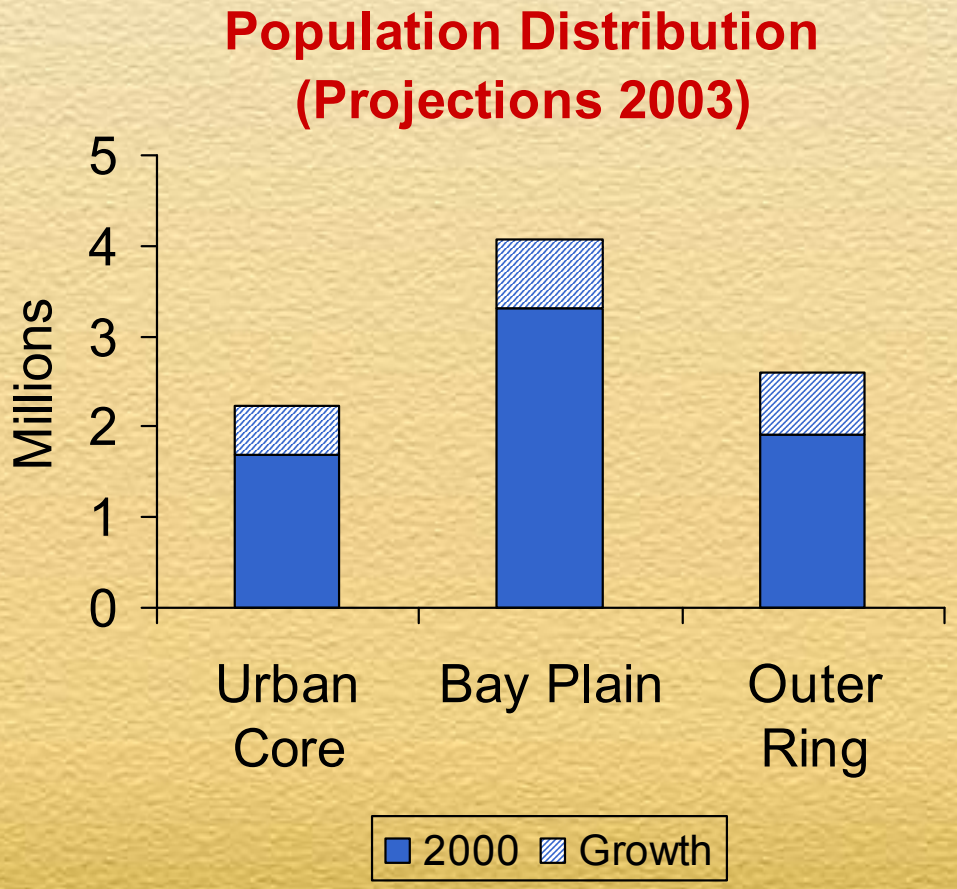
- Work
- School
- Shop/Recreation

4. Travel Time & Traffic

- How long it takes to get from A to B (by mode)
- How many vehicles on a given roadway
- Traffic congestion and delay

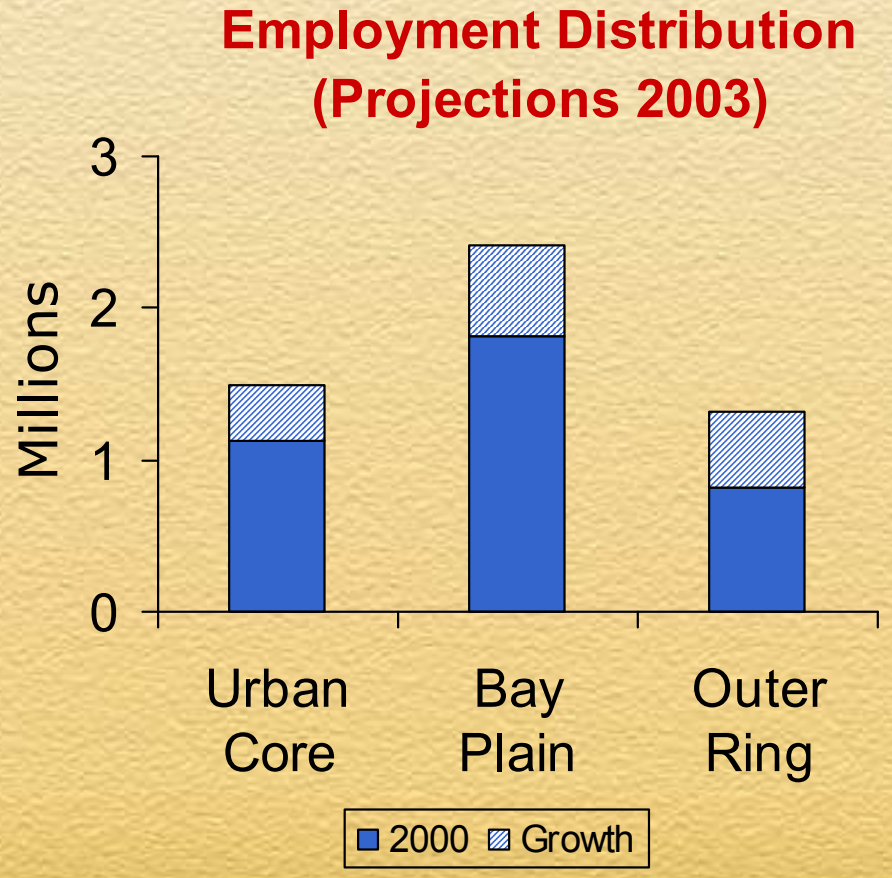
What Do The Projections Say?

Regional population will grow from **6.8** million in 2000 to **8.8** million in 2030



What Do the Projections Say?

Regional employment will grow from **3.8** million in 2000 to **5.2** million in 2030



What Do the Projections Say?

Average number of persons per residential acre will increase from **11.6** in 2000 to **13.5** in 2030

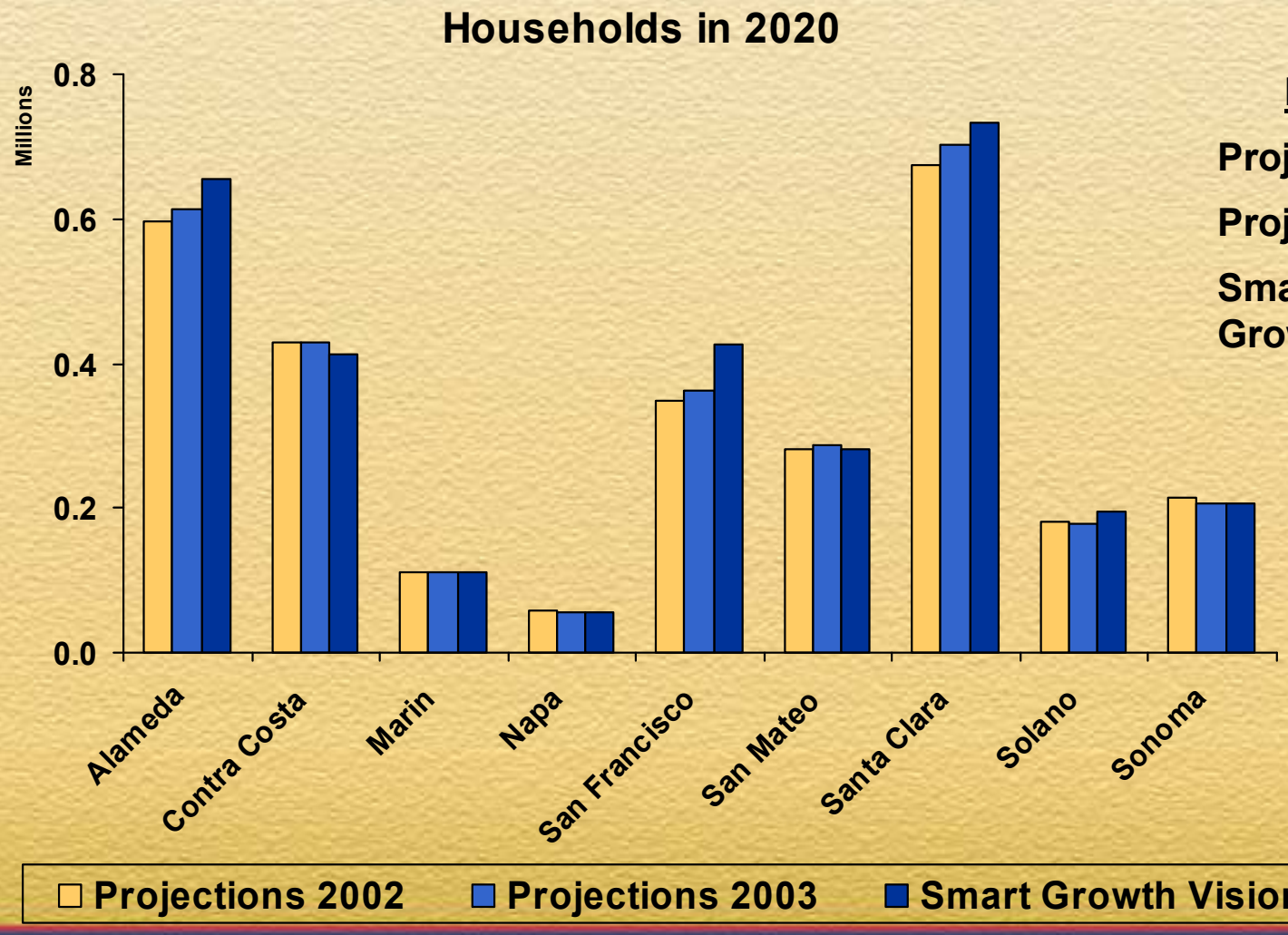
Residential Density

Persons per residential acre, 2000–2030

Ring	2000	2030
Urban Core	36.1	44.9
Bay Plain	13.8	16
Outer Ring	6.1	7.3
Region	11.6	13.5

Source: MTC analysis of ABAG Projections 2003

Comparison of Projections 2002, Projections 2003 & Smart Growth Vision



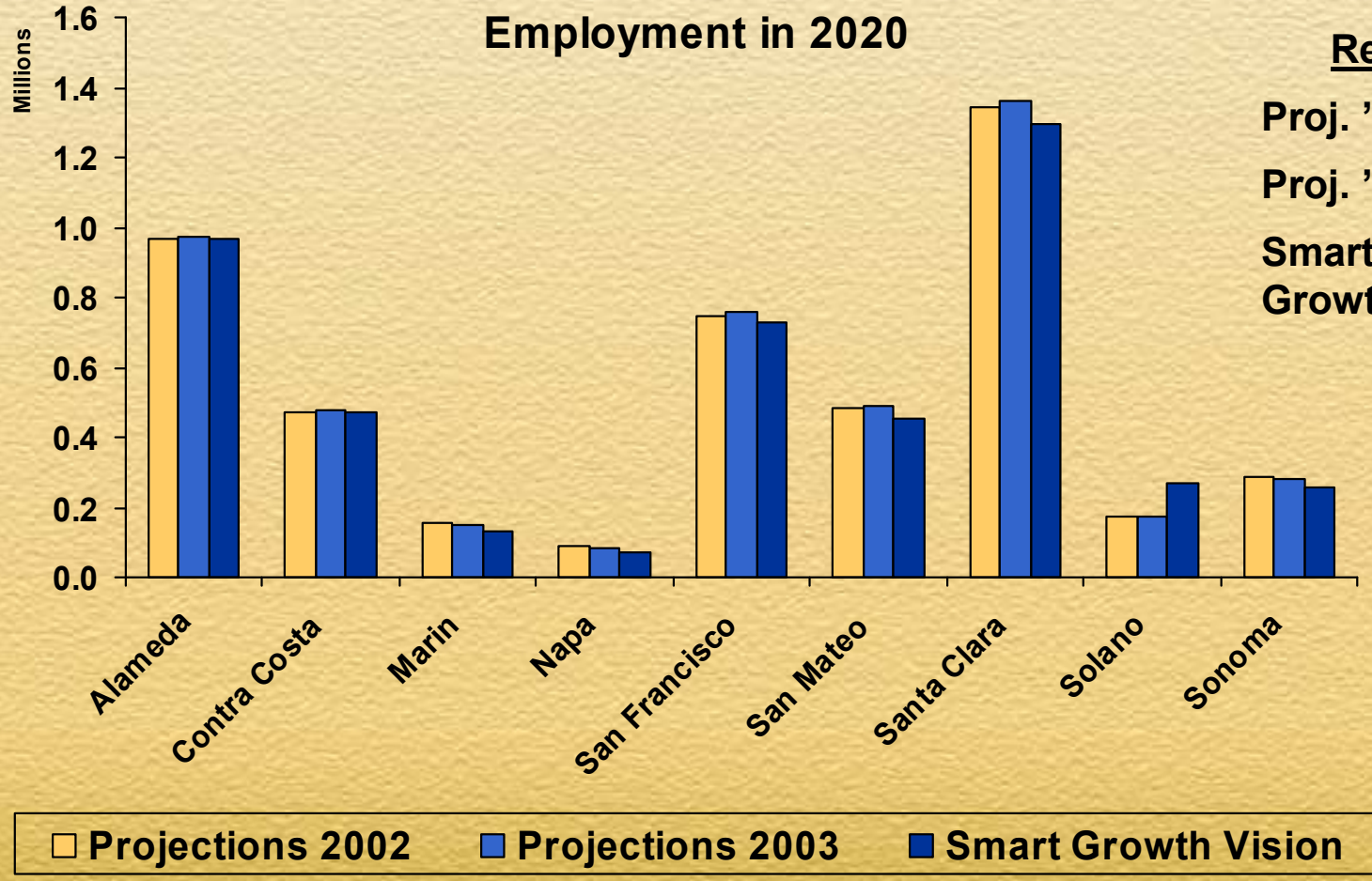
Regional Total

Proj. '02: 2.89 million

Proj. '03: 2.95 million

Smart Growth: 3.1 million

Comparison of Projections 2002, Projections 2003 & Smart Growth Vision



Regional Total

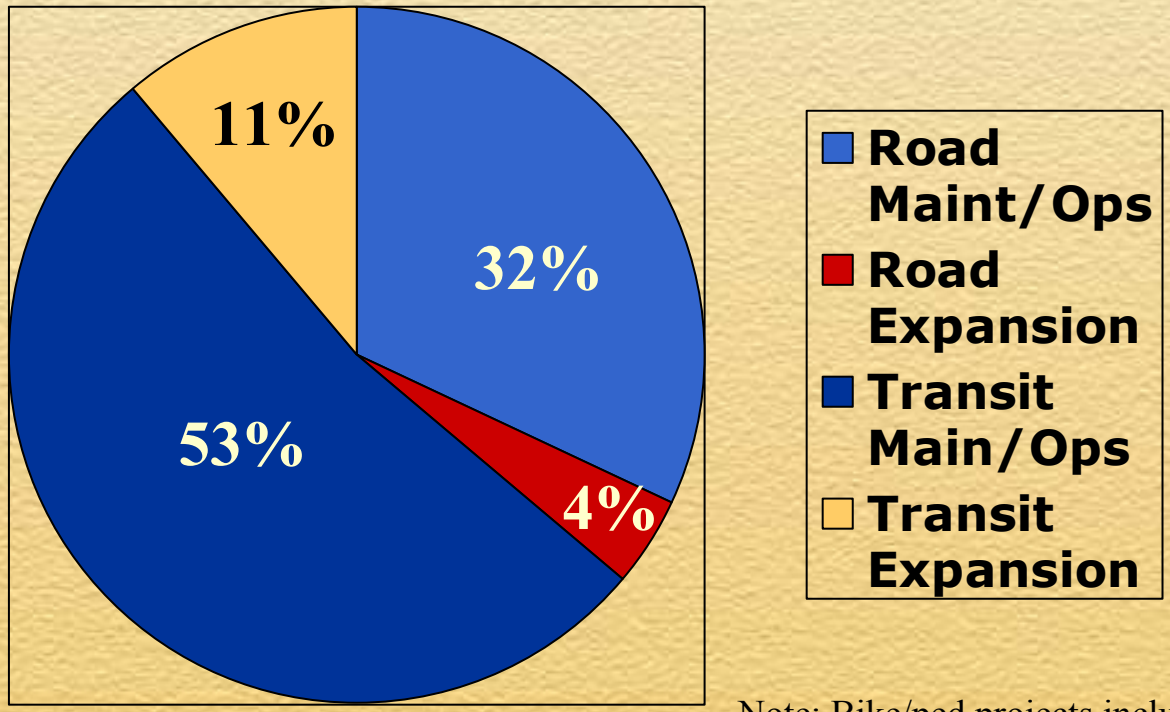
Proj. '02: 4.71 million

Proj. '03: 4.75 million

Smart Growth: 4.64 million

T-2030 Forecasts of Transportation and Travel

How Are T-2030 Funds Spent?



Note: Bike/ped.projects included in "Road Exp."

Resolution No. 3434

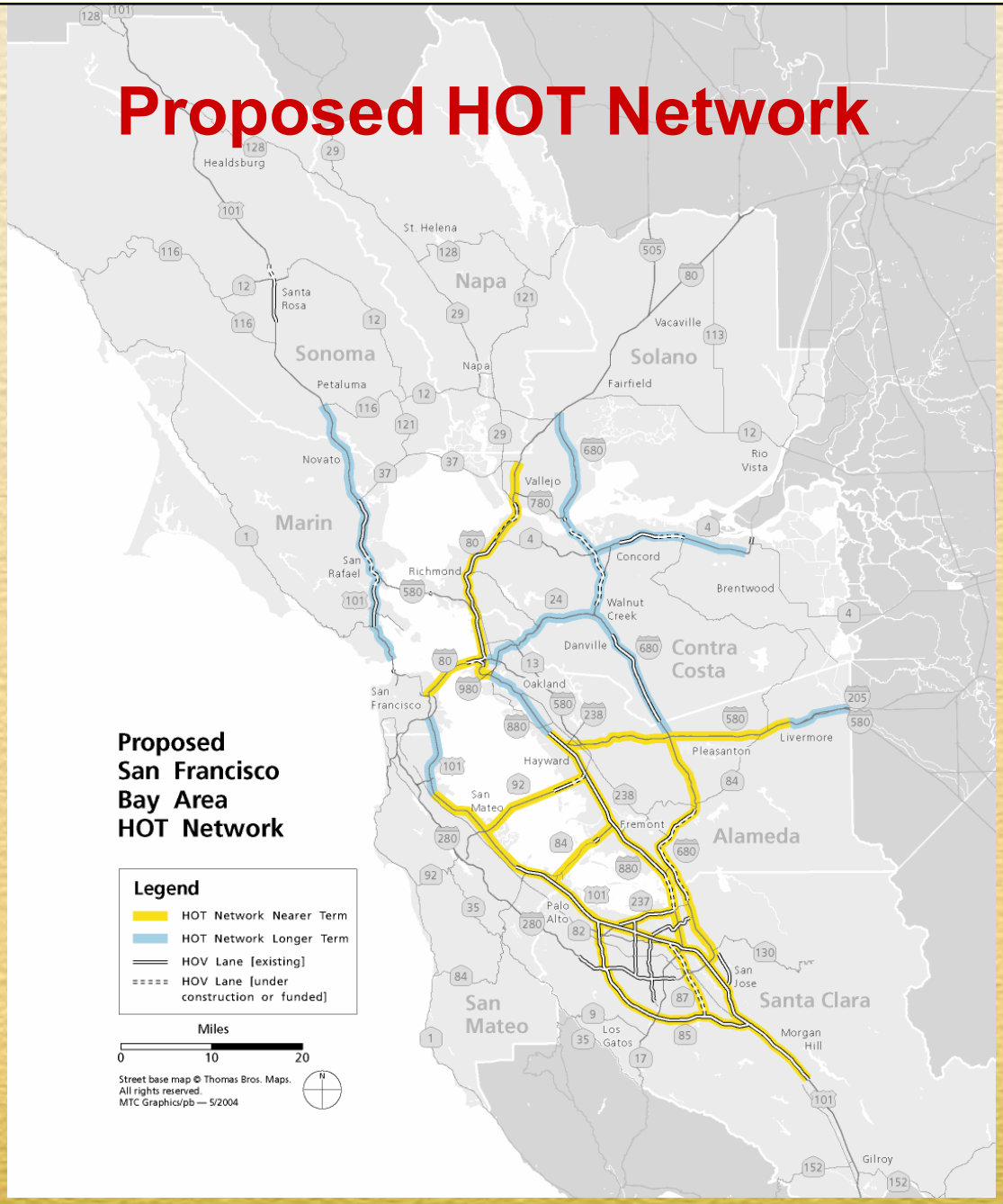
Map of Projects

Legend

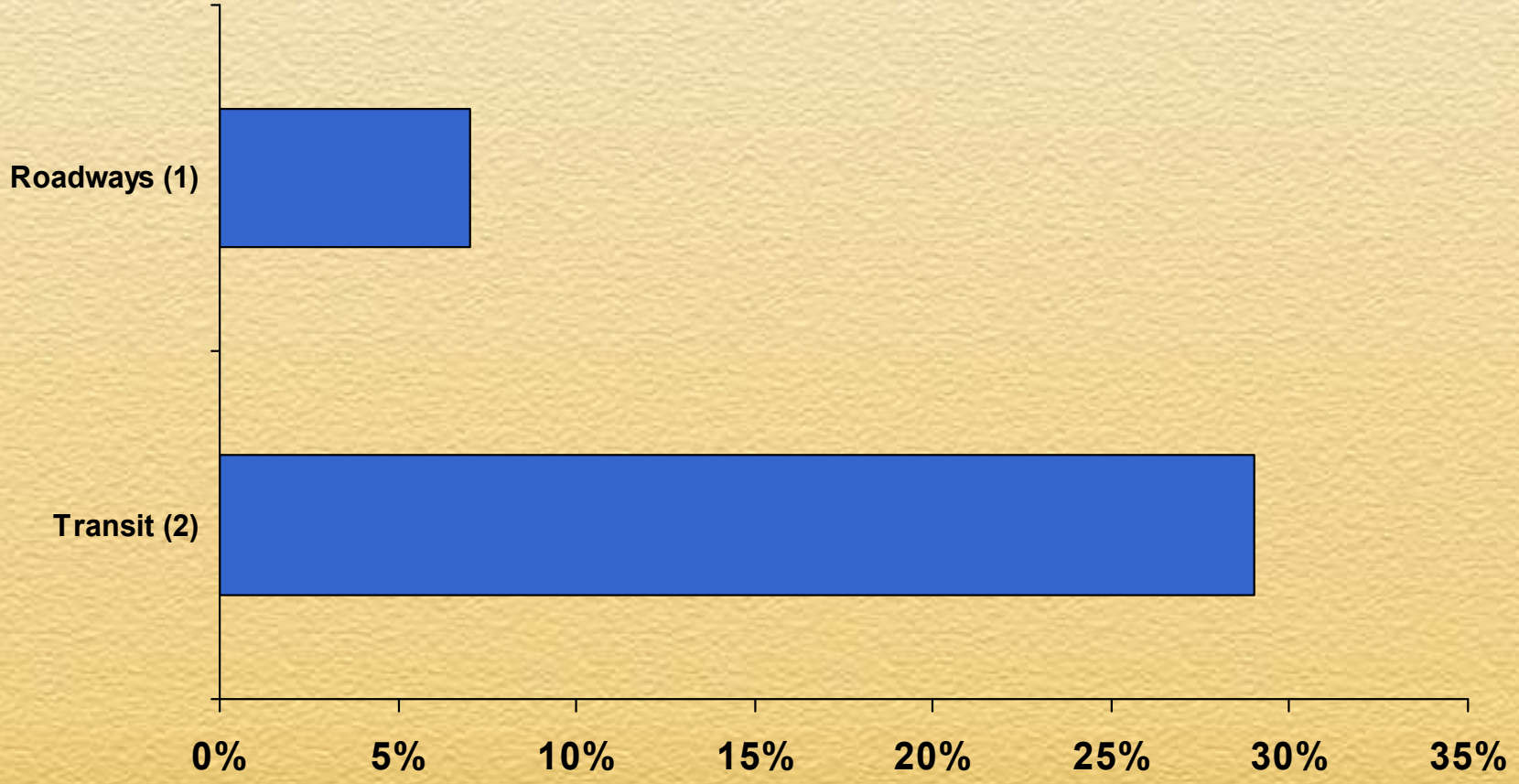
- ACE / service upgrade
- Amtrak Capitols / service upgrade
- BART, existing
- BART / rail extension
- Caltrain / service upgrade
- Caltrain extension
- Express bus route
- AC Transit rapid bus
- Muni light rail, existing
- Muni light-rail extension
- SMART
- VTA light rail, existing
- VTA light-rail extension

METROPOLITAN TRANSPORTATION COMMISSION

Proposed HOT Network



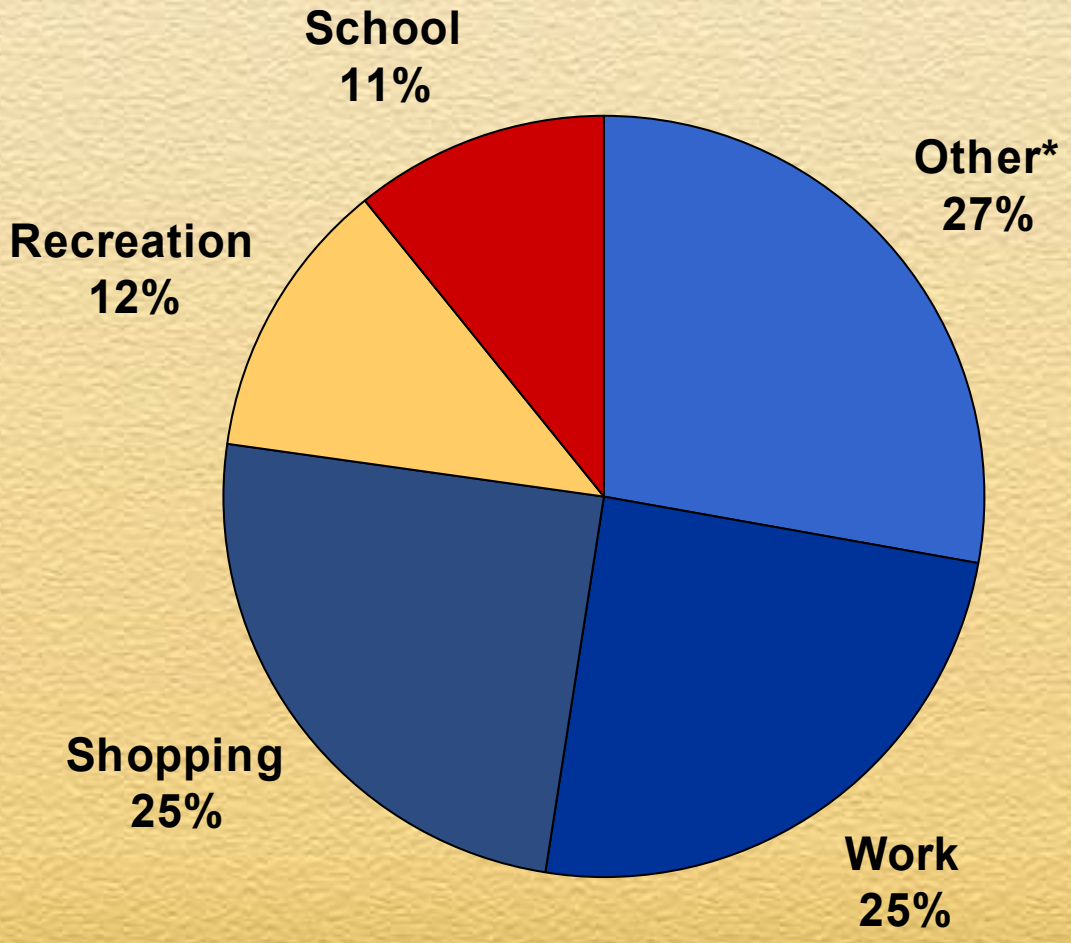
Increase in Transportation Capacity from 2000 to 2030



(1) Roadway lane miles
(2) Transit seat miles

Transportation 2030 Draft Plan

Trips by Purpose in 2030



** commercial, medical, non-home based*

Transportation 2030 Draft Plan, based on Projections 2003

Travel by Mode, 2000 & 2030

Work Trips by Mode, 2000 and 2030

Mode Share	2000	2030	Change
Drive Alone	71.0%	68.1%	-2.9%
Carpool	13.7%	13.9%	0.3%
Transit	10.9%	13.3%	2.4%
Walk	3.3%	3.3%	0.0%
Bike	1.1%	1.4%	0.2%

Source: MTC travel forecasts

Transportation 2030 Draft Plan, based on Projections 2003

Travel by Mode, 2000 & 2030

All Trips by Mode, 2000 and 2030

Mode Share	2000	2030	Change
Auto*	83.7%	82.8%	-0.9%
Walk	9.3%	9.3%	0.0%
Transit	5.6%	6.6%	1.0%
Bicycle	1.5%	1.4%	-0.1%

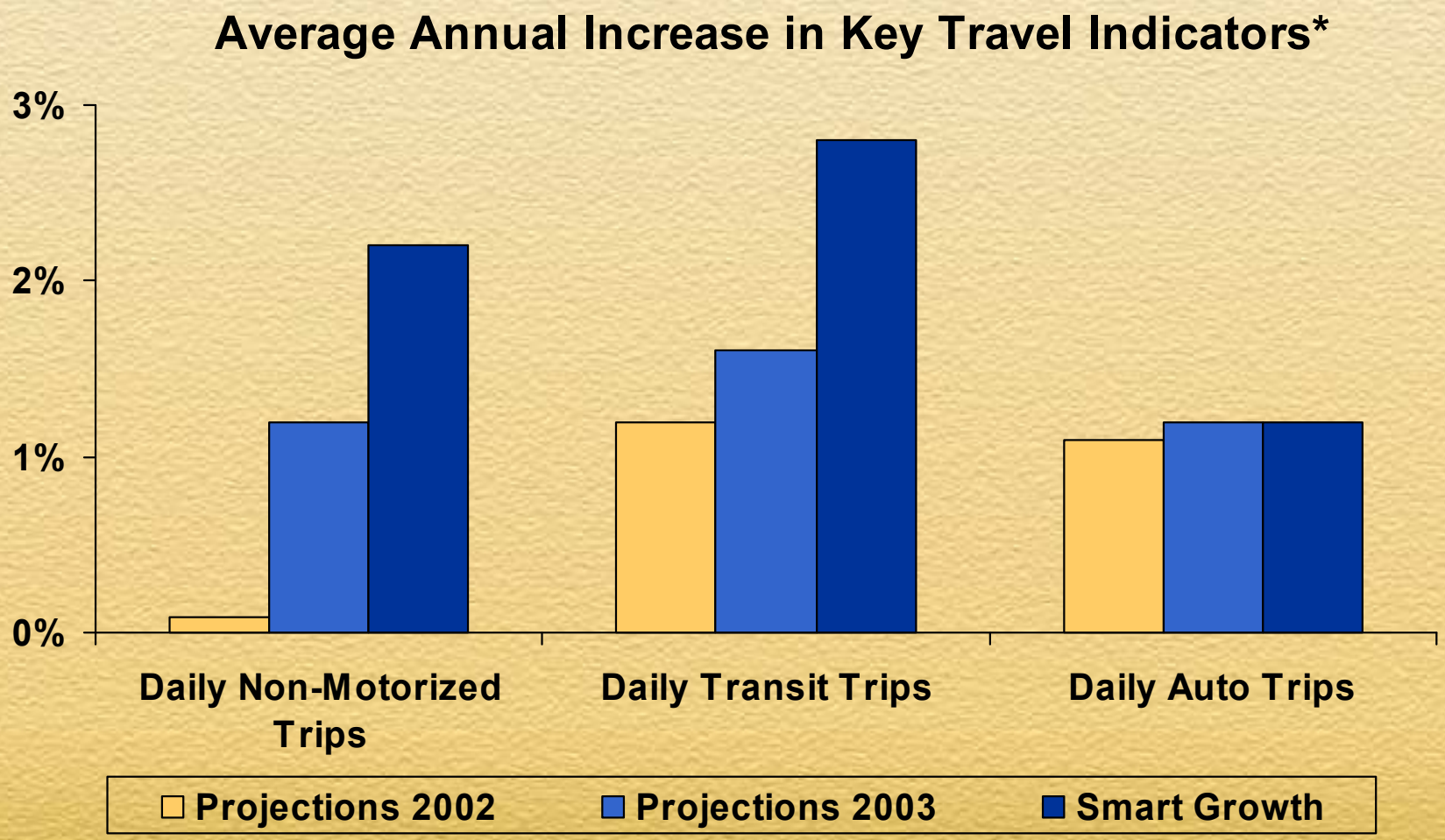
*Driver and passenger

Source: MTC travel forecasts

** Driver and passenger*

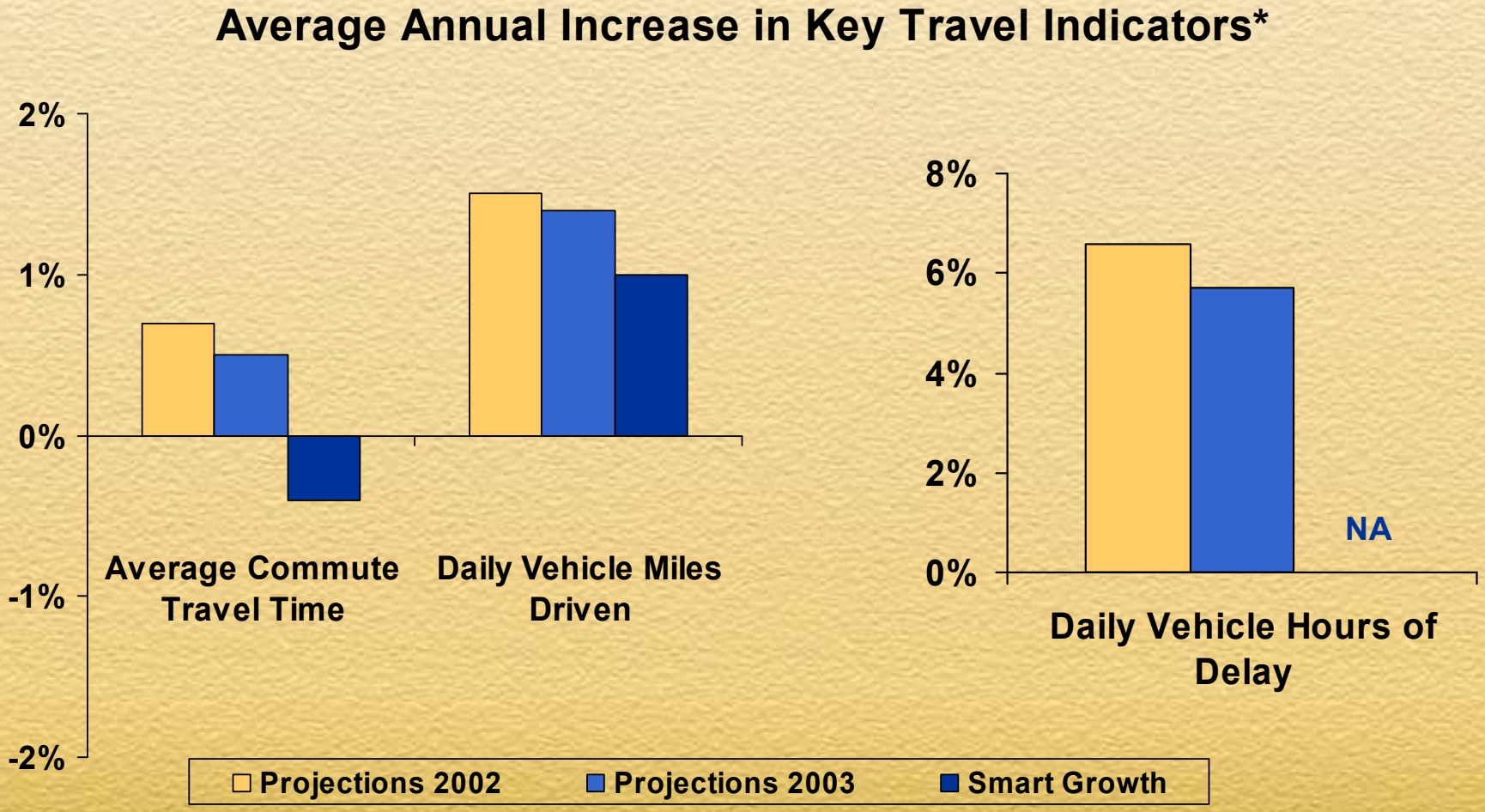
Transportation 2030 Draft Plan, based on Projections 2003

Comparison of Projections 2002, Projections 2003 & Smart Growth Vision



*From 2000 to horizon year (2020, 2025 or 2030)

Comparison of Projections 2002, Projections 2003 & Smart Growth Vision



*From 2000 to horizon year (2020, 2025 or 2030)

Conclusions:

- Bay Area Traffic congestion will increase over the next 25 with current projections
  - 2 million more people
  - 1.4 million more jobs
- Land use changes can affect travel behavior
- Smarter growth can:
  - reduce the rate of increase in auto use and traffic congestion
  - increase transit and non-motorized trips
  - reduce trip lengths and travel times